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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,063	03/31/2004	Hitoshi Yamamoto	2271/71538	8897

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NEW YORK, NY 10036

EXAMINER
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MISIURA, BRIAN THOMAS

ART UNIT	PAPER NUMBER
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2111

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05/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/816,063		YAMAMOTO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Brian T. Misiura		2111	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-77 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-19, 22-30, 33-41, 43-51, 53-61, 64, 68 and 72 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 20, 21, 31, 32, 42, 52, 62, 65-67, 69-71 and 73-75 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 August 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **Detailed Action**

#### ***Response to Arguments***

1. Applicant's arguments filed 1/26/2007 have been fully considered but they are not persuasive.
2. The applicant argues on page 3 of the remarks that the DBC 105 of Stanley does not operate as a switch to switch the connections of the bays to the host. The Examiner respectfully disagrees. The device bay controller 105 determines which type of device is connected to the system and provides access to either the USB Hub Controller or the 1394a PHY, which qualify as respective bus interfaces.
3. In regards to the amendments of Claims 1, 12, 23, 34, 44, and 54, please refer to the rejection below for further explanation.
4. In addition to the current rejection of Claims 1, 12, 23, 34, 44, and 54, a rejection over the AAPA has also been made below.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 12, 23, 34, 44, 54, 64, 68, and 72 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding said claims, "compliant with specific card standards" is indefinite and should be amended to "compliant with a predetermined card standard". Regarding Claims 1, 12, 23, 34, 44,

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and 54, the newly added claim limitation should also be amended to "wherein said predetermined card standard requires".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 12, 23, 34, 44, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA.

7. AAPA discloses:

- a PC card connector configured to provide connections for connecting one of a first PC card compliant with specific card standards and a card-adapting card for connecting a second PC card compliant with a different card standard to the PC card control apparatus (figure 1, numeral 13 connector, numeral 21 PCMCIA card, numeral 23 non-PCMCIA card);

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- a card detector configured to detect connection of the card-adapting card to the PC card control apparatus (figure 1 numeral 14)
  - and to subsequently output a detection signal (figure 1 H/L);
  - and an interconnection switching circuit configured to switch the connections of the PC card connector to connect the PC card connector to a bus interface dedicated to the second card upon receiving the detection signal from the card detector (paragraph 14, figure 1 USB B2),
  - wherein said specific card standards require a first data format (paragraph 14, PC Cardbus B1 format)
  - and said different card standard requires a second data format different from said first data format (paragraph 14, USB B2 format),
  - and said bus interface dedicated to the second PC card operates with said second data format of said different card standard without converting to said first data format of said specific card standards (figure 1 numeral 15, a MUX does not convert anything, it simply reads its selection signal and selects the appropriate bus accordingly.).
8. Per claims 1, 12, and 23, Harris discloses: a PC card control apparatus, comprising:
- a PC card connector configured to provide connections for connecting one of a PC card compliant with specific card standards
  - and a card-adapting card for connecting a second PC card compliant with a different card standard to the PC card control apparatus (column 3 lines 37-55, figure 4 – specific card standard is either PC Card (16-bit ) or CardBus);
  - a card detector configured to detect connection of the card-adapting card to the PC card control apparatus and to subsequently output a detection signal (column 3 lines 50-55);
  - wherein said specific card standards require a first data format (media card interface logic)

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- and said different card standard requires a second data format different from said first data format (16-bit and Card Bus I/F logic),
- and said bus interface dedicated to the second PC card operates with said second data format of said different card standard without converting to said first data format of said specific card standards (column 3 lines 50-55).

Harris does not disclose the switching circuit to switch the connections of the card connector to the appropriate bus for the adapting card.

However, Stanley discloses a device bay controller (figure 3 numeral 105) that connects either a USB or 1394 bus interface to a device bay based on the detecting which type of device has been inserted.

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the switching method of Stanley into the system of Harris in order to provide an efficient method of selecting the appropriate bus interface for the card being used.

9. Per Claim 76, Harris discloses a bus interface internal to a host system (figure 4 – PCI bus).

10. Per Claim 77, Harris discloses wherein said second PC card is not compliant with the specific card standards (figure 4 numeral 420 – column 2 lines 60-65, smart media, multimedia, secure digital, memory stick, and smart cards), and said card-adapting card enables said second PC card not compliant with the specific card standards to connect to the PC card control apparatus (figure 4 numeral 440).

11. Per claims 2, 13, 24, 35, 45, and 55, Harris discloses: the PC card control apparatus according to claim 1, wherein the specific card standards include a PCMCIA

standard (column 3, lines 56-61, figure 5).

12. Per Claims 3, 14, 25, 36, 46, and 56, Stanley discloses wherein a second PC card is compatible with a USB 2.0 interface (figure 3, multiple device bays 110, 115, and 120 – each can have a USB device connected thereto).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate a USB adapter connector such as Stanley's, into the card adapting card of Harris in order to provide a means for connecting a USB device to a host when no USB connector is located directly on the host.

13. Per Claims 5, 16, 27, 38, 48, and 58, Stanley discloses a USB hub (figure 1 numeral 150 column 7 lines 1-9).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate a USB hub into the system of Harris for the purpose of providing a common interconnect for signal traffic.

14. Per claims 6, 17, 28, 39, 49, and 59, Harris discloses: the PC card control apparatus according to claim 1, further comprising: a power supply voltage switching circuit configured to switch power supply voltages including first and second power supply voltages supplied to the PC card connector based on the detection signal (column 4 lines 39-46, figure 5).

15. Per Claims 7, 18, 29, 40, 50, and 60, Harris discloses a PC Card power switch **535** that provides power to either a 16-bit card or a 32-bit Cardbus. The standard operating voltage of a 16-bit card is 3.3V and that of a 32-bit card is 5V.

16. Per Claims 8, 19, 30, 41, 51, and 61, Harris discloses the PC card power switch **535** outputting the appropriate voltage to the PC card connector based on the detection of which type of card is connected (column 4 lines 27-46 – figure 5)

17. Per Claims 11, 22, 33, 43, 53, and 63, Harris discloses a CardBay controller 515 containing card detect logic and coupled to a power-switching portion 535. Stanley discloses a device bay controller used in an interconnection switching fashion.

- It would have been obvious to one of ordinary skill in the art at the time of the applicant's claimed invention to incorporate the portions of Harris and Stanley onto a single IC in order to provide an easy way of producing the functionality of the portions and downsizing the area the components consume in the host.

18. Per claims 34, 44, and 54, Harris discloses: a PC card control apparatus, comprising:

- a PC card connector configured to provide connections for connecting one of a PC card compliant with specific card standards (column 3, lines 56-61, figure 5 – specific card standard is CardBay)
- and a second PC card compliant with a different card standard to the PC card control apparatus (column 4, lines 13-17, figure 5 – this specifies that card **520** could be that of either 16-bit or CardBus, both of which use a different bus standard than the third option which is CardBay);
- a card detector configured to detect insertion of the second PC card in the PC card control apparatus and to subsequently output a detection signal (column 3 lines 50-55, figures 4 and 5, numerals 410 and 515);
- wherein said specific card standards require a first data format (media card interface logic)
- and said different card standard requires a second data format different from said first data format (16-bit and Card Bus I/F logic),



- and said bus interface dedicated to the second PC card operates with said second data format of said different card standard without converting to said first data format of said specific card standards (column 3 lines 50-55).

Harris does not disclose the switching circuit to switch the connections of the card connector to the appropriate bus for the adapting card.

However, Stanley discloses a device bay controller (figure 3 numeral 105) that connects either a USB or 1394 bus interface to a device bay based on the detecting which type of device has been inserted.

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the switching method of Stanley into the system of Harris in order to provide an efficient method of selecting the appropriate bus interface for the card being used.

19. Claims 4, 15, 26, 37, 47, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. U.S. Patent No. 6,684,283 in view of Stanley et al. U.S. Patent No. 6,061,746 in further view of Huang et al. U.S. PN 6,718,274 in further view of Long U.S. PN 4,191,942.

20. Per Claims 4, 15, 26, 37, 47, and 57, Huang discloses using a MUX to select either a CardBus or a PCMCIA bus interface (figure 3 numerals 32A and 32B).

Long discloses that a multiplexer could be replaced by an analog switch (column 4 lines 45-49).

- It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate a Multiplexer into the bus switching apparatus of Stanley since a MUX is a convenient way of selecting a single output

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based on several possible inputs. It would have also been obvious to replace a multiplexer with an analog switch in the instance where a single analog input is desired.

***Allowable Subject Matter***

Claims 9, 10, 20, 21, 31, 32, 42, 52, and 62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 64, 68, and 72 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 65-67, 69-71, and 73-75 are objected to as being dependent upon a rejected base claim, but would be allowable if the base claims were rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 64, 68, and 72 are considered to be containing allowable subject matter, primarily due to the fact that they all claim "a regulator configured to regulate a power supply voltage supplied by the PC card control apparatus in order to adapt the power supply voltage for the second PC card." This limitation in combination with all other existing limitations of claims 64, 68, and 72 put claims 64-75 in condition for allowance.

Prior art found for this case often contained a means of regulating the voltage for the second PC card, however no references found contained the regulator **within** the passive-adaptor card itself.

Claims 65-67, 69-71, and 73-75 inherit the allowable subject matter of Claims 64, 68, and 72.

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Misiura whose telephone number is (571) 272-0889. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571) 272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*B. Misiura*

*4/30/2007*

*Paul R. Myers*